Implications for Training Curriculums From a Task Inventory Survey of Indian Community Health Representatives

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THE FEDERAL BATTLE against disease among the Indian people was intensified in 1955, when Congress established the Indian Health Service (IHS) as a new agency within the Public Health Service. Since then IHS has trained thousands of American Indian and Alaska Native people in health care occupations.

At first, IHS designed this training to serve as a mechanism for preparing qualified people to staff its many dispersed facilites. A supply of trained manpower was necessary before the Service could progress toward raising the health status of its client population.

Many of these training programs were born before other educational institutions were effectively meeting the special needs of American Indian students. The IHS training emphasized health care skills useful in the hospital. This vocational education in health care proved fruitful by supplying both employment for graduates and skilled manpower for IHS needs from within the local community.

The IHS has successfully combated many health problems. The improving, but still deficient, health status of its client population has prompted the Service's staff to place additional emphasis on training people for a broad range of health-related community needs, rather than limiting educational efforts to clinic or hospital needs. The IHS's long-range plan is to build competency in fighting health problems into the community structure itself. Training in both health care skills and decision making processes has been incorporated into the instructional system supported by IHS. The Service's intent is to equip the American Indian and Alaskan people to manage their own health care resources and to better control the decisions which affect their health and the habitability of their communities.

Community Health Workers

Trained community health workers in Indian and Alaskan communities are a major element in reaching these goals of management and control. From the standpoint of tribal acceptance, the training course for community health representatives (CHR) has been particularly successful. Employees for the local CHR programs are selected and hired directly by the tribes and trained by the IHS. More than 950 CHRs now work for more than 120 tribes, and increases of 250 positions each year are projected.

Since the CHR training began in 1968, more than 1,800 students (including many other allied health workers) have been enrolled in the 3-week basic course. Within the United States, no program for community health workers can match the CHR program in size or scope of responsibility. Since the CHR is unique, the program managers and course instructors have had difficulty finding examples and sources to guide them in the testing and evaluation of the quality of the curriculum. The course content has had to be defined through a process of identifying personal, community, and IHS needs and then matching these needs against available resources.

Rund and co-workers *(1)* studied various CHR activities and identified four types of programs which the tribes seemed to have selected. Their report highlighted

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functional roles in which individual persons seemed to have a positive impact as measured by respondent attitudes. Since their study, the CHR program has grown twentyfold, and there has been no formal mechanism for getting feedback regarding either its impact or direction.

While the CHR program was growing, the Indian community has also benefited from other Federally funded programs to combat specific health problems. For example, many tribes have supported alcoholism counselors, mental health technicians, nutrition aides, and a number of other outreach workers. These programs have developed since the CHR program was established. It is possible that the existence of these special programs has permitted the CHRs to assume more specialized roles. This change may have, in turn, affected their training needs.

Community health representatives are trained to engage in a number of health-related activities. Tribes may choose to move some into specialty areas, or they may maintain their CHRs in a generalist role. (The IHS role is to negotiate with a tribe for a set of services which are delivered to the Indian community. Except for the basic training of the CHRs to staff them, these programs are entirely a tribal activity.)

Hypotheses Concerning CHRs

One hypothesis within the IHS is that the role of the CHR has changed in a substantial number of tribes since the initial program concept was introduced in 1968. Each year the training staff has incorporated some changes in the basic curriculum. Nevertheless, further and more extensive modifications in the training are now being formulated. The staff has, of course, acquired much new material which it would be advantageous to introduce. The problem is to determine exactly how the CHR job has evolved so that curriculum modifications will reflect the true needs of the trainees for both the present and the near future.

In attempting to identify the various types of programs and related training needs, the hypothesis was advanced that homogeneous groupings of CHR employees could be identified, based upon specific demographic characteristics which would cause them to gravitate toward selected occupational roles within their communities. If this hypothesis were true, then the CHR curriculum could possibly be modified to incorporate an individualized, yet universal, format. The curriculum could be universal in that everyone would be introduced to the broad spectrum of health care subjects. At the same time, students could work in teams, or individually, to pursue their special interests in greater depth. Currently, instructors must teach college graduates and third grade dropouts in the same class. In certain situations this may actually be desirable. In others, the student mix is too diverse to handle the subjects properly.

IHS has a simple demographic profile of each CHR. This record includes age, sex, marital status, number of dependents, education, tribe, date employed, geographic area of employment, and a training completion indicator. This paper describes an attempt to determine what activities CHRs are engaged in and whether the demographic factors were satisfactory predictors of the types of activities in which CHRs find themselves engaged with more than normal frequency.

Early Health Aide Programs

Before attempting to build a measuring instrument for the CHR program, the program should be viewed in context of the Federal health care efforts on behalf of the American Indian and Alaska Native people. In the 13 years between the assumption of the Indian health care program by the Public Health Service in 1955 and the installation of the CHR program in 1968, comprehensive health services were introduced on most reservations. One measure of success in health care programs, the infant death rate, has declined from 62.5 per 1,000 live births in 1955 to 23.5 in 1971. This was a distinct change from the minimal level of medical care services provided originally by the military and later by the Bureau of Indian Affairs.

Even before the CHR program, IHS staff attacked Indian health problems by seeking new methods for meeting existing needs. Many isolated Alaska Native villages served by IHS are plagued by frequent periods of extremely poor weather. In response to these circumstances, the village health aide was introduced in Alaska in 1947 *(2)*. The first aides had little formal education and worked as volunteers following 5 days of training. Aides served as the primary medical care providers in their villages; they were linked by radio to an IHS physician. They did not generally perform community development work, health education, or other health-related activities.

Following the assumption of responsibility by the Public Health Service, Cornell University Medical College received funds to establish the Navajo-Cornell Field Health Research Project at Many Farms, Ariz., on the Navajo Indian Reservation. Medical auxiliaries were introduced in this project—one of the first uses of paraprofessional health care workers in a civilian sector of the United States. Major duties of these workers were described as follows *(3)*:

1. To understand the basic facts about health and disease and to be able to interpret them in the Navajo language and in terms of the Navajo culture.
2. To carry out selected nursing procedures intelligently under the direction of the public health nurse in the field, clinic, home and school.
3. To collect demographic and health information and to keep accurate records of the information collected and of the simple medical instructions and procedures they have carried out.

From this job description, one can surmise that the auxiliaries' work incorporated functions of the nurse aide and the medical record clerk, as well as the ability to interpret medical terms in the Navajo language.

In selecting these auxiliaries, the Navajo people placed strong emphasis on continuity of community of residence, age, and the ability to speak Navajo; these were quite different signs of stature than those commonly recognized within the medical profession: Navajo people placed little emphasis on educational credentials.

The Cornell project was terminated in 1961, leaving the Navajo people with adequate alternative sources of care, and the IHS with some guidelines for future operations. According to the Cornell researchers *(4)*:

> . . . a clinical physician system of primary health care was a poor choice, in terms of potential achievement through technology. Some form of the nonclinical or community medicine system, in which the physician did not care for individual patients, would have been more rational.

Another forerunner of the CHR program was the Community Health Aide Program tested on the Pine Ridge Indian Reservation in South Dakota and funded by the Office of Economic Opportunity. The aides were given 13 weeks of formal instruction in home nursing, child care, home management, and sanitation. Again, the preference for older employees, also prevalent in the Cornell project, prevailed.

In an unpublished report, "Evaluation of the Community Health Aide Program," on Pine Ridge in 1967, Walter Deacon, an IHS employee, found evidence of both success and failure. Deacon's major criticism was that aides visiting families in their homes did not take advantage of health education opportunities. Instead, they concentrated on specific tasks to meet the purpose of the visit and ignored other home factors which could have been handled at the same time. He found some evidence of a reduction in perceived morbidity, an indication of the success of the program. School personnel reported a significant reduction in certain diseases, although the PHS clinic staff reported a 50 percent increase in cases diagnosed. He concluded that the introduction of the community health aides brought about earlier diagnosis and commencement of treatment, thereby lessening the impact of illness on school attendance.

Evolution of the CHR Program

In effect, the CHR Program evolved from earlier attempts by IHS to incorporate Indian people into the provision and planning for medical care services. The pilot programs gradually recognized an Indian definition of community involvement as "finding someone who speaks their language, respects their customs, and helps them find their way into the health care delivery system" *(5)*. The CHR could not replace the health care professional, nor could he alleviate a shortage of professionals. He would not act as a nursing assistant, nor as a paramedic. In a sense, CHRs emerged as casefinders, health educators, and as a link between the patient and his source of health care.

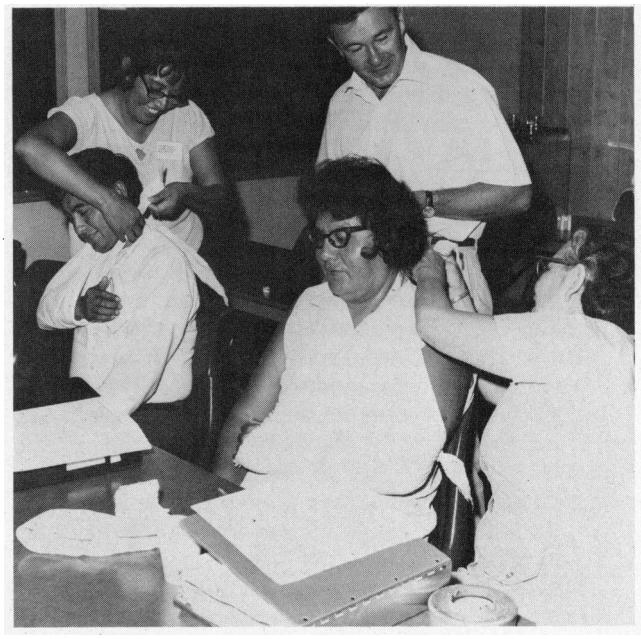
In the CHR program, each tribe selects its own representatives, administers its local program under contract with the IHS, and develops the program in a way that is most responsive to its specific needs. The various tribes have adopted four basic occupational roles for their CHRs *(1)*.

1. In the health aide role, CHRs work closely with IHS staff members. This role emphasizes assistance with patient care tasks and is similar to the auxiliary's role in the earlier Navajo-Cornell and Pine Ridge programs.
2. In the health liaison role, the CHR serves as a link between the community and health resources available within the community.
3. In the community liaison role, the CHR acts as a link between the community and all outside resources. This role usually includes housing, education, and employment and welfare assistance, in addition to health care resources.
4. In the community development role, the CHR strives to develop community organizations capable of identifying and solving health problems.

IHS has changed, perhaps matured, in its approach to community workers. In the justification for the 1969 fiscal year appropriation, these workers were ". . . functioning as arms of physicians, nurses, nutritionists, sanitarians, and other professionals" *(6)*. Just 1 year later this role expanded *(7)*:

> The function of the trained community health representative is to serve as a member of the health team serving the community, to effectively speak for the community and to secure community support for health programs. In this connection these representatives participate by (1) making people aware of their health conditions and the availability of health services; (2) assisting families in doing things for themselves to improve and maintain their health; (3) conducting surveys and accumulating vital data; (4) interpreting to the families the environmental conditions that need attention for improving health

Community health representatives practice applying slings during the first aid portion of the 3-week basic course



and participating in planned programs; (5) referring individuals to professional health personnel and following up on these referrals to insure that the individuals are following prescribed instructions and keeping scheduled appointments; and (6) educating and advising communities and individuals on non-professional aspects of all phases of the health program.

Three years later, Dr. Emery Johnson, Director of the Indian Health Service, acknowledged that the CHR Program went beyond the traditional health program boundaries and encompassed social, economic, educational, and environmental issues *(8)*.

Designing the Task Inventory

In re-examining the CHR's job from the viewpoint of a training curriculum, task analysis, using an inventory survey, was considered the most appropriate approach to obtain the observations and feelings of a great many CHRs. With several hundred CHRs employed, it would be impossible to know precisely which functions these workers performed without conducting interviews or making a survey. Most reservations are remote from urban centers, making travel to them both costly and difficult. One could interview or observe a small sample of CHRs, but not the entire group. Interviews would be useful, but because of the necessarily small sample, a substantial proportion of the workers would have no direct opportunity to influence instructors and program managers during the assessment of needs phase of curriculum development. Therefore, a survey was considered the most appropriate technique for conducting a task analysis.

The validity of pursuing a task analysis approach to an educational assessment is supported by many authorities working in health career vocational education. Moore and Stewart *(9)* recommended building a task analysis data base as a platform from which planning, selection, and assessment instruments for training could be developed. Dagmar Brodt used task analysis for constructing a curriculum for Navy corpsmen *(10)*. She was successful in reducing the curriculum from 560 to 355 hours by using performance-based training methods which were constructed around skills identified through the task analysis survey. The Health Services Mobility Study, under the direction of Gilpatrick *(11)*, also made extensive use of task data in preparing curriculum guidelines for X-ray technology.

Construction of the Community Health Worker Task Inventory began with a perusal of all CHR curriculum materials. From these documents, an outline of probable tasks was constructed. This outline served as the basis for interviews with several experienced CHRs who were returning to the Desert Willow Training Center in Tucson as visiting staff. These interviews generated a tentative list of task statements.

A committee of course instructors then convened to examine the tentative task inventory. The committee grouped the tasks into several categories. Once this structure was established, every statement in the questionnaire was challenged against the ability of the responses to influence training. Statements which failed this test were deleted. The complete inventory consisted of 112 tasks.

Since mail surveys often have a low response rate, two precautions were taken to obtain a satisfactory sample size. Enough task inventories were prepared for all workers regardless of whether or not they had completed the basic course. Next, inventories were packaged for each tribal contract and mailed to IHS Area offices for redistribution in August 1973. This method of distribution took advantage of an existing management and communications hierarchy and proved to be a wise decision in terms of control of the task inventories; more than two thirds of the questionnaires were completed and returned.

The questionnaire, as constructed, included one open-ended task statement and space for adding comments in the margins or bottom of the pages. Some new information was obtained through these devices, but not enough to raise questions concerning the general quality of the inventory.

In designing the inventory, CHR instructors chose to request a response for both frequency of performance and priority of performance for each of the 112 tasks. Frequency and priority may, however, act quite independently. No general hypothesis could be constructed concerning the expected responses. Existing documentation of CHR activities was not suitable for comparisons in most instances. Although some narrative reports were very informative, virtually none of the information in them could be collated into a meaningful summary useful for planning purposes. Rather than attempt to establish 112 hypotheses, it seemed better to use the results as the basis from which specific CHR training needs could be negotiated with each tribal group.

Information was sought about 64 tasks through paired statements, such as: *(a)* provide . . . instruction and *(b)* listen regarding . . . problems. Paired statement were employed because providing instruction regarding a given health problem requires different skills than the ability to listen to the same problem. The instructions for completing the inventory gave definitions of "instruction" and "listen" as well as ordinal scales for frequency and priority (see table).

Individual responses to each task were then accumulated and the mean values for frequency and priority computed. The mean value provides a measure of the central tendency for frequency of occurrence and priority of performance for each task. All analyses of data from the returned questionnaires used the sign test *(12)* to distinguish between groups defined by the various demographic factors studied. This test allowed for related tasks to be grouped into functional catagories without regard to the specific value of mean frequency or priority; the test examined the likelihood that a group of CHRs with a common characteristic would perform their jobs in a manner different from all CHRs without this characteristic.

Definitions for the Community Health Worker Task Inventory

Instruction: Includes teaching and other *planned activities* in which *you are taking the lead* in providing understanding of a health-related problem to a patient, client, or group.

Listen: Includes casefinding, community surveillance, and *informal* counseling in which you are *listening* to people discuss their problems or responding to their needs. Also includes obtaining specific information for other health care workers such as Indian Health Service staff.

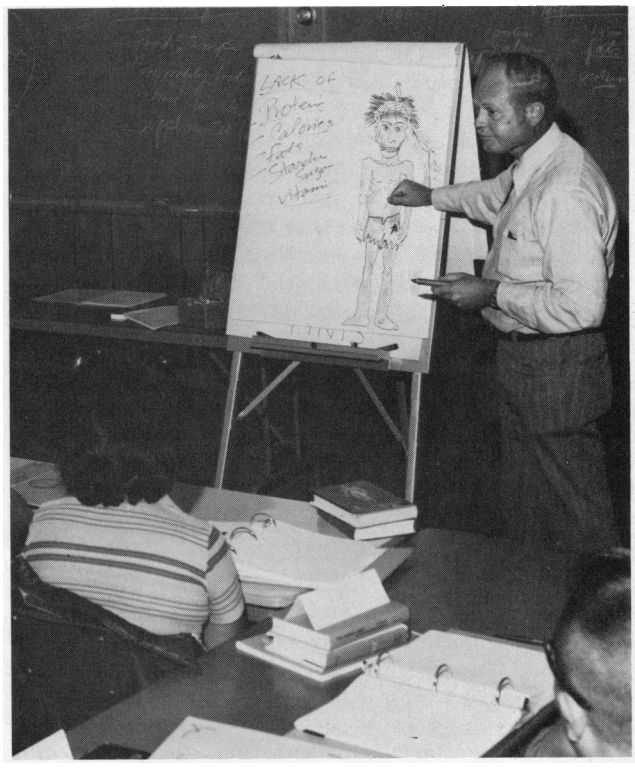
Frequency: How often do you do this task?
1. Daily/almost daily
2. Several times a week
3. Several times a month
4. Several times a year
5. Never/almost never

Priority: How important is this task in your work situation?
1. Very important
2. Moderately important
3. Not really important

Results of the task inventory survey of community health workers

Task statement	Mean frequency	Mean priority	Sample size
Specific physical health problems			
1. Provide nutrition instruction	3.1	1.5	433
2. Listen regarding nutrition problems	2.8	1.5	425
3. Provide tuberculosis instruction	3.5	1.6	428
4. Listen regarding tuberculosis problems	3.2	1.5	409
5. Provide diabetes instruction	2.7	1.4	431
6. Listen regarding diabetes problems	2.5	1.3	425
7. Provide cardio-vascular instruction	4.0	1.8	391
8. Listen regarding cardio-vascular problems	3.5	1.7	392
9. Provide dental instruction	3.1	1.4	432
10. Listen regarding dental problems	2.6	1.4	422
11. Provide diarrhea instruction	3.1	1.5	434
12. Listen regarding diarrhea problems	2.9	1.5	433
13. Provide ear instruction	3.2	1.5	432
14. Listen regarding ear problems	2.9	1.5	432
15. Provide eye instruction	3.1	1.5	425
16. Listen regarding eye problems	2.7	1.4	435
17. Provide venereal disease instruction	3.9	1.6	421
18. Listen regarding venereal disease problems	3.6	1.6	428
19. Provide injury instruction	3.1	1.5	420
20. Listen regarding injury problems	2.8	1.6	434
Mental health problems			
21. Provide drug misuse instruction	3.5	1.6	426
22. Listen regarding drug misuse problems	3.3	1.5	429
23. Provide alcoholism instruction	3.1	1.5	425
24. Listen regarding alcoholism problems	2.7	1.4	431
25. Provide suicide instruction	4.2	1.8	415
26. Listen regarding suicide problems	3.8	1.8	418
27. Provide emotional disturbance instruction	3.7	1.8	417
28. Listen regarding emotional disturbance problems	3.3	1.7	421
29. Provide family relationships/problems/crisis instruction	3.2	1.7	422
30. Listen regarding family relationships/problems/crisis problems	2.8	1.6	438
Maternal/child health care			
31. Provide prenatal instruction	3.2	1.5	435
32. Listen regarding prenatal problems	2.9	1.5	442
33. Provide postnatal instruction	3.5	1.6	424
34. Listen regarding postnatal problems	3.3	1.6	427
35. Provide high risk mother/family instruction	3.6	1.7	422
36. Listen regarding high risk mother/family problems	3.4	1.7	425
37. Provide family planning/sex education problems	3.7	1.8	420
38. Listen regarding family planning/sex education problems	3.4	1.7	425
39. Provide high risk child instruction	3.7	1.7	415
40. Listen regarding high risk child problems	3.4	1.7	414
41. Provide well child instruction	3.1	1.5	425
42. Listen regarding well child problems	2.9	1.5	424
43. Provide sick child instruction	2.9	1.4	430
44. Listen regarding sick child problems	2.6	1.4	427
45. Provide physically handicapped instruction	3.8	1.8	415
46. Listen regarding physically handicapped problems	3.4	1.7	421
47. Provide other health problems instruction	2.6	1.5	423
48. Listen regarding other health problems	2.4	1.4	430
Environmental health activities			
49. Provide housing (state of repair/heating/cooling/electricity) instruction	3.6	1.7	428
50. Listen regarding housing (state of repair/heating/cooling/electricity) problems	3.0	1.6	442
51. Provide housing (construction of new homes) instruction	3.8	2.0	413
52. Listen regarding housing (construction of new homes) problems	3.2	1.8	429
53. Provide water (supply, repair, maintenance) instruction	3.6	1.8	425
54. Listen regarding water (supply, repair, maintenance) problems	3.2	1.7	435
55. Collect water (bacteriological, chemical) samples	4.3	1.9	413
56. Provide sewage and refuse (removal/treatment/storage) instruction	4.0	1.8	412
57. Listen regarding sewage and refuse (removal/treatment/storage) problems	3.6	1.8	426
58. Provide food (preparation/storage/preservation) instruction	3.6	1.7	421
59. Listen regarding food (preparation/storage/preservation) problems	3.4	1.7	422
60. Provide insect/rodent control instruction	3.4	1.7	428
61. Listen regarding insect/rodent control problems	3.1	1.6	432
62. Provide rabies instruction	3.7	1.7	429
63. Listen regarding rabies problems	3.5	1.7	435
64. Provide safety/accident prevention instruction	3.2	1.5	442
65. Listen regarding safety/accident prevention problems	3.0	1.5	429
Transportation/delivery for patients/clients/groups			
66. Arrange	2.0	1.4	441
67. Drive (non-emergency)	2.4	1.6	442
68. Drive (emergency)	3.1	1.4	442
Provide patient care			
69. Provide emergency first aid	3.4	1.5	443
70. Dispense over-the-counter medications (aspirin, cough syrup, etc.) to patients/clients	3.4	1.9	424

Right—Comprehensive family health services are offered to people in their homes. Below—CHRs learn the basic nutritional requirements for healthful living at the Desert Willow Training Center in Tucson, Ariz.



Task statement	Mean frequency	Mean priority	Sample size
71. Dispense "prescription" medications under the direction of a doctor	3.2	1.6	429
72. Collect/destroy outdated medications	3.6	1.6	430
73. Administer injections/immunizations	4.5	2.1	391
74. Take temperature/pulse/respirations/blood pressure	3.6	1.7	419
75. Give/read PPD test	4.2	2.0	395
76. Measure/weigh	3.8	1.9	414
77. Test urine	4.1	2.0	410
78. Give Child Development Test	4.5	2.1	401
79. Screen vision	4.2	1.9	416
80. Screen hearing	4.4	1.9	414
81. Take throat culture	4.4	2.0	398
82. Take stool culture	4.6	2.1	385
83. Give bed baths/back rubs	4.3	2.1	402
84. Give heat/cold treatments	4.2	2.0	401
85. Clean wound/sore	3.3	1.6	428
86. Apply/change sterile dressing	3.4	1.6	419
87. Teach/assist with physical therapy exercises	4.2	1.9	403
88. Calm patient/hold children	3.5	1.8	421
89. Prepare patients/room for exam	4.2	2.1	405
90. Assist with examination of female patient	4.2	2.1	397
91. Act as interpreter for patient/health team personnel	2.8	1.5	440
92. Arrange for admissions to hospital/clinic	3.2	1.5	426
Homemaker services			
93. Babysit	4.4	2.3	388
94. Prepare meals	4.1	2.1	395
95. Clean home	3.8	2.0	403
96. Market for food	3.6	2.0	413
Work with people			
97. Youth (recreation/social, etc.)	3.6	1.9	419
98. Elderly (recreation/social, etc.)	3.5	1.8	419
99. Conduct tours/act as public relations representative	4.1	2.1	401
100. Coordinate efforts between other people/agencies	3.0	1.5	430
Manage the CHR program			
101. Prepare talks/speeches	3.7	1.8	397
102. Prepare visual aids	3.9	1.8	392
103. Prepare demonstrations	4.0	1.9	384
104. Prepare reports for Tribe/IHS/research studies/grant proposals, etc.	3.5	1.6	386
105. Evaluate personnel/program performance	4.1	1.9	369
106. Determine duties for personnel	4.0	2.0	365
107. Prepare/administer budget	4.4	2.1	358
108. Type	3.7	2.0	360
109. File documents/letters/records	3.2	1.7	375
110. Draft correspondence	4.0	2.0	356
111. Plan activities/meetings, etc.	3.3	1.7	389
112. Attend training	3.3	1.3	413

Results of the Survey

When the survey was mailed, 718 community health representatives were employed by the various tribes. Task inventories were returned by 494 persons. Some respondents did not answer all questions; therefore the numbers in the sample size column of the table indicate the number of persons stating both frequency and priority for the particular task.

Tasks which ranked high in frequency of performance also tended to rank high in priority for performance (see table). In like manner, low frequency tasks generally ranked low in priority. This strong tendency supports the conclusion that CHRs are following implicitly defined objectives in working toward improved health among the people in their communities. One exception is nonemergency driving, which they did fre-

quently, but regarded as only about average in priority. This inconsistency supports the contention that CHRs drive too much. Transporting people is a controversial task with many proponents and opponents. Whichever side one chooses, the evidence of community demand for transportation is apparent.

For each of the 64 paired task statements, CHRs indicated that they more frequently "listen regarding (some specific) problem" rather than "provide (some specific) instruction." These answers suggest that CHRs tend to assume a low profile in health education; they listen, hear, and respond to individually expressed needs rather than playing a more conspicuous role such as conducting group meetings on a specific health care problem.

In all but one pair of the health education tasks, the listening tasks were ranked more important than providing instruction. It seems that the listener role, which was the one most frequently assumed by the CHRs, was also regarded as the most important role. Although some respondents added notes which indicated that lack of appropriate facilities prevented group meetings (where instruction tends to occur), many more indicated that they needed more skills than they possessed in individual communications and motivation. These are essential process or methods skills for the outreach worker which cut across virtually all knowledge of subject matter which may be required.

Health education about problems of diabetes and sick children ranked very high among the tasks the CHRs performed. In both of these problems, the outreach workers are assuming both listening and instructional roles.

The preference for the listener role has implications for both tribal leaders and IHS instructors. If a tribe desires the worker to adopt this role, then the abilities to listen, understand, and empathize with people should be important factors in selecting and training employees. Concurrently, a supportive IHS staff should design training which will tend to build suitable communications skills for the worker. Emphasis should be placed upon listening and interpersonal communications skills rather than on preparing talks, visual aids, or other demonstrations, skills which are infrequently used. Those few workers who have the opportunity or need for more formal presentation techniques could benefit from supplemental training.

The function of transportation ranked high in both frequency and priority. This rating indicates that driving skills should be examined more closely. Tribes may wish to review the driving record of prospective employees, and even make an appointment conditional upon the applicant's securing a chauffeur class license rather than an operator's license. The training staff may also wish to incorporate defensive driving, now an elective, into the requirements for the basic course.

The frequency of transportation duties suggests another site for health education. In the automobile, personal communication and instruction, rather than group education, can be carried out. The importance of the outreach worker as a source of transportation also suggests the need for training in advanced first aid and the special driving skills necessary in emergency transportation of people.

Most tasks in the patient care group ranked low in both frequency and priority of performance. The lone exception, "Act as interpreter for patient/health team personnel," is not really a patient care task, but an important skill which supports the patient care function. It may be desirable for tribes with many non-English speaking members to require bilingual ability of all outreach workers. The training staff may also wish to incorporate special training in oral translation into the optional portion of the curriculum.

Respondents' Comments

The task inventory was not designed to include every possible task that a community health worker might perform. In an attempt to disclose important tasks which may have been omitted, respondents were invited to write new tasks on the inventory form. Many people also commented on their work. Some of their additions and comments, edited and summarized, are included because they aid in understanding the function of the outreach worker.

Other health problems mentioned by the respondents were the common cold, sore throat, stomach ache, infection, influenza, arthritis, baby teething, and body and head lice.

Tasks cited by respondents related to social services were encouraging immunization of children, encouraging people to follow their medication orders, assistance in obtaining food stamps, assistance in obtaining financial aid for families, and visiting hospitalized people.

Some of the CHR's more revealing comments follow.

- The most common problem among the Indian people is that they are reluctant to talk about their illnesses and their pre- and postnatal problems.
- I would like to be able to *(a)* prepare patients/room for exam, *(b)* assist with examination of female patients, *(c)* arrange for admissions to hospital/clinic.
- Cooperation is a problem because people are unfamiliar with the CHR program. Also, people think of us as a Tribal taxi service.
- Our basic work involves removal of garbage, septic tank pumping, plumbing repair, spraying of bugs, etc. Any environmental health activities are in our work area.
- In my area, a lot of my people are diabetic. I try to encourage them to keep their clinic appointments and to take their medicine regularly. I try to make appointments for prenatal visits for their first checkup and thereafter. I pass pamphlets to my prenatals and also give pamphlets to my postnatals. For my young children and high school children, I tell them about how important it is to have yearly physical and dental checkups.

- We need to develop a more positive outlook on life—a new mental attitude, a problem solving attitude towards our Indian health; personal- and environmental-wise.
- We need to take pride in our tribe! Most of our problems would resolve themselves. Cleaner homes, yards, and children!
- People in my community need to know the prevention of diseases and, if they have one, how to take care of themselves. Some of the people will not take their medicines as prescribed and we, as CHRs, see to it that they keep their appointments. Transportation is a problem for a lot of the people.
- We make many home visits and let the people know what they can expect in the way of help from us, and also tell them where to go for further information on their problem. At the present time we have more family contact than group meetings. We plan on more meetings and activities when the space is provided.

Staff Forecasts of Results

Eight Indian Health Service staff members who work directly with the Community Health Representative Program were asked to complete the task inventory by attempting to forecast the results of the inventory. In general, the staff appears to have a strong feel or grasp of the health worker's occupational role. There are, however, some discrepancies which may be important and merit discussion.

Staff predictions of the survey results differed for three paired statements concerning the health problems of diarrhea, prenatal care, and care of sick children. The staff expected that there would be more planned instruction than listening and responding. The differences for these statements were not statistically significant. More important were differences in priorities for 15 tasks. For these 15, the staff expected planned instruction to be more important than listening and responding—a ranking difference in priorities which is statistically significant.

This overestimation of the program-oriented health education role could cause inappropriate instruction to be planned for the workers. Content may be ideally suited to the needs of the outreach workers, but the method of instruction may not be suited to the role which they must assume. Instructors should review this situation and make the appropriate changes if necessary. Tribal leaders should rest assured that the content of the curriculum appears most appropriate to the demands of the job regarding health education.

Three additional staff forecasts merit attention. First, mental health tasks were not performed as frequently as estimated. Second, maternal and child health care tasks were also performed less frequently than presumed. Finally, homemaker services are regarded as more important by the workers than the staff realized. Although these differences are minor, the basic course should be reviewed to see if more emphasis should be placed on homemaker skills. Instruction in mental health and maternal and child health may be more suitable for advanced training programs.

Analysis of Demographic Factors

The demographic profile of each community health representative is an indicator of the occupational roles which the worker will tend to assume. As the educational level of workers rises, they make an obvious role shift. People with less than a high school diploma or equivalent tend to work in patient care and homemaking activities. In contrast, those with more than a high school education emphasize working with people and managing the program. If one takes all functions into account, the high school graduate seems to find outreach work most challenging. He or she places a higher importance on these tasks than workers with either less or more education.

Training has a notable effect upon four functions of the CHR. Environmental health, patient care, and homemaker services are performed more frequently and regarded as more important after training. In contrast, management of the tribe's program is given lower priority. The explanation for this change may be the fact that untrained CHRs are initially used for clerical work, and that on the questionnaire, clerical tasks were incorporated into the program management function.

Employees who are satisfied and find their work challenging stay on the job. In no functional category did the more experienced worker perform a task less frequently or attach lower priority to a task than the newer worker.

Workers with several dependents placed more interest in or performed tasks more frequently than workers with fewer dependents.

Marital status influenced a worker's job role. Married persons seemed to find the entire spectrum of occupational functions a challenge. Single persons seemed least concerned or involved. Widowed people found homemaker services more important, while the divorced or separated were concerned most about physical and mental health education plus transportation services.

No differences existed between men and women as to whether they were working with people or performing program management functions. Men were more involved in environmental health activities. In the remaining functions, women dominated.

There were differences between areas of the country with respect to the various functions. These differences cannot be explained merely by geographic location (that is, North versus South).

The previously mentioned demographic factors and their relationship to the job role suggests the need for a more careful analysis of criteria for selection of employees and possible prerequisites for advanced courses. It may be desirable to cluster the students according to the various training needs evident in the differences in the programs the tribes choose to carry out.

Community health representatives promote healthful living and self-sufficiency to improve the quality of life in their communities

Conclusions

The inventory results support the conclusions reached by Rund and co-workers' earlier study, in which they identified four basic community health representative roles. But analysis of the survey results also suggests that many more roles are emerging. In response to this development, tribal leaders should select employees more carefully if they wish a specific community role to be fulfilled. Also in response, IHS should adopt a flexible training program to better meet individual student needs. IHS has already been developing some courses in environmental health, mental health, and maternal and child health. As tribes make their specific needs known, more specialized training curriculums can be prepared.

The Community Health Representative Program is not operating as a uniform outreach endeavor throughout the more than 120 contracts with Indian tribes in 24 States. Nor is it composed of disjointed sets of hundreds of people operating independently to serve their communities. Rather, it is composed of groups of programs and individuals functioning in a similar manner. Factors which tend to identify specific training needs for these programs also exist. Student groups of sufficient size to merit special approaches to training can also be identified. It is possible to build a curriculum for individualized CHR instruction along any of the major functions identified in the task inventory. Some of the content might be common to all CHRs; other material might be specific for a tribe, sex, or age group. Still other CHRs might study independently, using a learning resource center. This approach would preserve the economies of group instruction while incorporating much of the learning potential of individualized instruction. Selection of the method of teaching would depend upon the skill to be acquired and the number of potential students. While the demographic factors mentioned previously are statistically significant in predicting role differences, they are not adequate to forecast the size of each student group.

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